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(54) Title: DIAGNOSIS OF PREDISPOSITION TO EPILEPSY AND MONITORING OF ANTIEPILEPTIC TREATMENT

(57) Abstract

A method and a diagnostic system for the detection of a predisposition to epilepsy in a patient, for the diagnosis of clinical epilepsy itself and for monitoring of antiepileptic treatment. The method includes the steps of obtaining a sample in a patient, preferably a blood sample, determining a concentration in the sample of at least two kynurenine metabolites selected from the group consisting of TRP, L-KYN, KA, 3HOAA, AA and QUIN, those having functionally opposite properties, and correlating the concentration of these metabolites in the sample and the ratio between them with a range of values of these concentrations and ratios between them in normal individuals. In addition, the level of activity of enzymes in peripheral tissues such as blood cells can also be used to diagnose seizure disorders in the subject, as well as to detect a predisposition to such seizure disorders in the subject. For monitoring of antiepileptic treatment, the range of values of two of the metabolites and the ratio between them are compared with the ranges of values of concentrations and the ratio between them in epileptic patients well controlled or non-controlled by antiepileptic drugs.